

IN THE ABSTRACT OF THE DISCLOSURE

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ABSTRACT

The present invention provides an apparatus and method for determining displacement along the z-direction of an object, which is fixed in a holder of an apparatus and is illuminated by a beam of radiation, the beam being provided by the apparatus and having an optical axis extending in the z-direction. The method comprises arranging the measuring mirror(s) and/or measuring laser beam of an interferometer system such that no relevant part of the laser beam is parallel to the z-direction. This ensures that the interferometer system and its parts may be arranged away from the beam of radiation, allowing larger diameter projection systems for the beam of radiation, as well as more homogeneous air showers around the object. Thus the quality of the illumination of the object may be improved.